

OWNERS MANUAL



MD[®] MONITOR MIXER

WARNING: TO PREVENT ELECTRICAL SHOCK OR FIRE HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. BEFORE USING THIS APPLIANCE, READ THE OPERATING GUIDE FOR FURTHER WARNINGS.

CHANNEL

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INPUT GAIN CONTROL

The Input Gain Control determines the sensitivity of each individual channel and should be adjusted accordingly to each instrument or vocal that is being patched into this system. The operator must adjust the Input gain so that overload (clipping) is avoided at the input. A very strong signal coming into the mixer would require a fairly low setting of the Input Gain Control, and, obviously, a very weak signal will require fairly high settings of this control. To properly adjust the input sensitivity of each channel the channel matrix levels and the master mix levels should be operated near zero dB, and the gain should then be adjusted for maximum levels that are required for the particular situation. This can easily be done by setting up the highest expected input signal level and adjusting the Input Gain so that no "clipping" or distortion is heard from the amp/speaker system. After this mixer has been used several times, the operator will have a very good idea of the signal levels encountered and will be able to set up the input sensitivity with no difficulty. Please be aware that different types of microphones will have different output levels and different performers will get widely varying signals from microphones depending on the strength of their voices and/or their basic "microphone technique".

HIGH FREQUENCY EQUALIZATION CONTROL

The High Frequency Control is capable of 15 dB boost or cut at 8 KHz with a "shelving" characteristic sloping down to the crossover point. High frequency *boost* is obtained with a *clockwise* rotation of this control and *counterclockwise* rotation results in a *cutting* of the high frequencies. Flat response is obtained in the center (12:00 o'clock) position. This "flat", 12:00 o'clock, position is an excellent place to begin tuning the system so that with different rooms and concert halls you will be able to determine what degree equalization is needed or not, then you may adjust accordingly.

MID FREQUENCY EQUALIZATION CONTROL

The Mid Control is capable of 15 dB boost or cut at 600 Hz with a peak/notch type of filter response. This middle EQ circuit enables control over the vital mid-range frequencies. The action of this middle filter is somewhat different than the high and low EQ since it is of the "peaking and notching" type. This type filter response is necessary to avoid undue interaction with the high and low equalizers. Caution must be exercised in order to avoid overboosting or overcutting the mid-range. Experience has proven that for most applications a very slight *mid-range cut* tends to produce a "tight" and well defined sound. Generally, large amounts of mid-range boost are extremely unpleasant and will probably never be used except for special effects or to correct extremely marginal microphones or unusual voice timbres. Monitor systems tend to get very "muddy" and lose a certain amount of presence when excessive amounts of mid-range is used.

LOW FREQUENCY CONTROL

This control is capable of 15 dB boost or cut at 60 Hz and demonstrates a "shelving" characteristic so that excessive lows are not boosted below the usable range of sound reinforcement speaker systems. The shelving action of this circuit has proven to yield much more satisfying and effective equalization characteristics than some of the "wide open" EQ circuits claiming 20 to 25 dB boost and cut. Care should be taken with the Low Frequency Control to not *overboost* lows on any particular instrument or vocal due to the fact that tremendous amounts of power amp "headroom" will be used up and a general "muddiness" will be apparent in the monitor system. Woofers may also be blown much more easily with excessive low frequency boost.

MATRIX LEVEL CONTROLS

There are six level controls on each channel of the MD™ Monitor Mixer which complete the monitor mix matrix and allow each instrument or vocal to be assigned to any or all of the six mixes. The channel level controls should be operated near the zero indication (unity gain) whenever possible for optimum headroom and signal-to-noise. Operation of this control above the zero point increases system gain (and noise), and below the zero point sacrifices headroom. Please notice each control is capable of 6 dB of gain above the (zero) unity gain position.

MASTER SECTION (See page 3)**OUTPUT MIX LEVEL INDICATION**

Six ten-segment LED arrays have been utilized to visually indicate the output level of each of the MD's six separate mixes. Masters 1 through 6 have their own respective LED ladders which indicate output levels from -21 dBV to +6 dBV. Each main output is capable of +18 dBV, so there is 12 dB of headroom left when the *top LED flashes* for each output section.

AC POWER SWITCH/LED

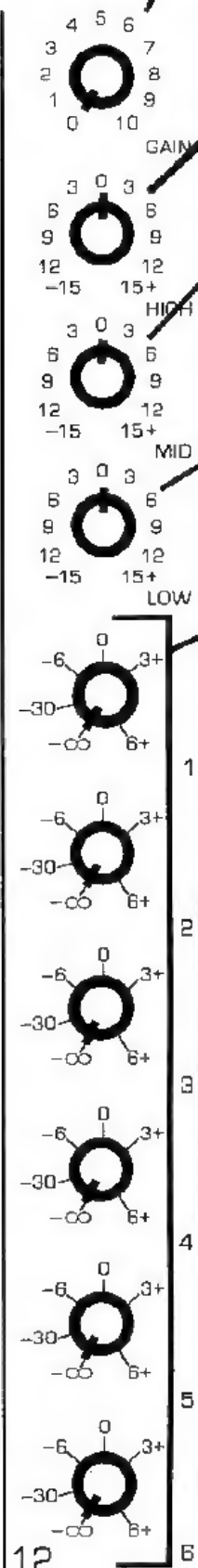
The Power Switch is a rocker type which is *off* at the bottom position and *on* at the top. The LED indicates that the AC mains are supplying the necessary power to the mixer.

SAMPLE LEVEL

Many times monitor applications require the monitor mix engineer(s) to have a sampling amp/speaker system in order to listen to the exact same mix the players are hearing. The Sample Level Control is the gain determining element for the sample output on the rear panel. Some monitor situations may only call for headphone sampling at the monitor mix board and in that case the sample output will not necessarily be used. In most cases, however, for high level operation, the separate sampling speaker is much more effective than typical headphones. The main advantage is that the monitor mix engineer is able to listen under similar conditions through the same type speaker as the performers on stage. NOTE: For sample output to become operational solo switches and sample level must be pre-set.

HEADPHONE LEVEL

The Headphone Level is a gain regulating device which determines the listening level in the headphones for the solo system. The related jack for the headphones is immediately to the right of the Headphone Level Control and will accept most typical headphone units with no problem. When monitoring the sample system through stereo headphones, the signal appears *monaurally* in both earpieces.



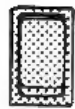
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MD® SERIES STAGE SYSTEM

A PRODUCT OF PEAVEY ELECTRONICS CORP. MERIDIAN, MS MADE IN U.S.A.

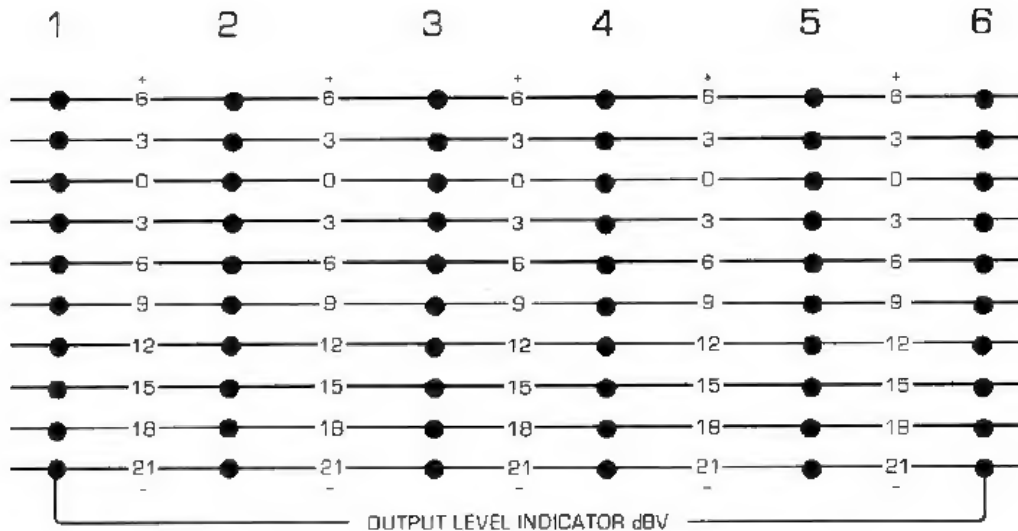
ON



OFF



POWER



12x6 MONITOR MIXER



HEADPHONE



SOLO

LOW CUT CONTROL

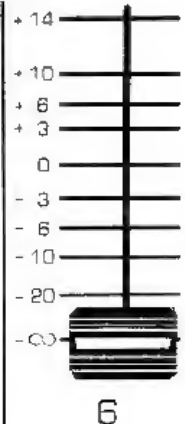
Each of the six respective masters include a "Low Cut" Control which tailors the low frequency response of all instruments or vocals assigned to that particular mix. The purpose of this control is a "roll-off" function of 12 dB per octave beginning at the frequency which is selected by a rotation of the control knob. The range of frequency selection is 20 Hz to 500 Hz. The low cut feature is a very useful device for matching the output signal with the capabilities of the power amp/speaker system for a particular mix. Low frequencies which the speaker system will not reproduce efficiently may be cut ("rolled-off") at 12 dB per octave, thus eliminating the muddiness often encountered with monitor systems. Monitor speaker systems in general are *not required* to reproduce as much low end as the "out front" (main) house system. Many monitor speaker systems are incapable of reproducing frequencies much below 100 Hz and the durability and projection of these systems is greatly increased when those devices are not driven with frequencies below their cut off capabilities.

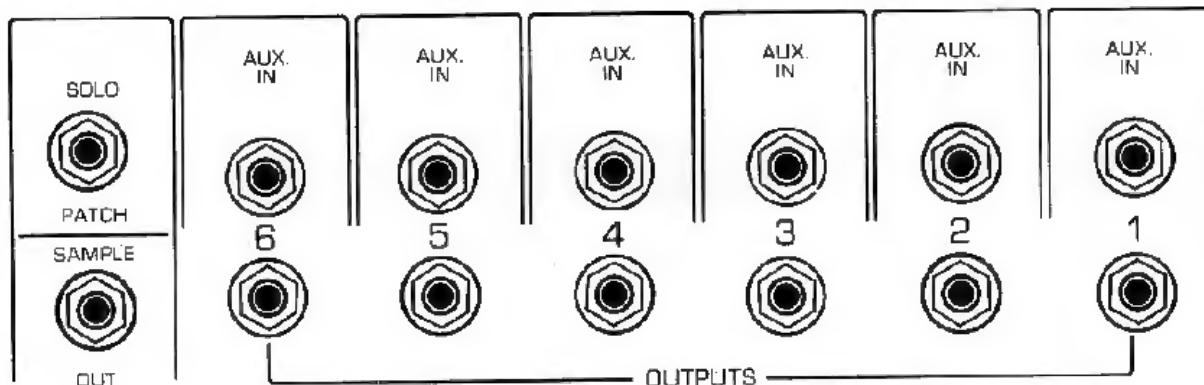
SOLO FUNCTION

The "Solo Function" Switch is a push-push type and allows the operator to select any or all master mixes in his headphone or sample output. The Solo Function is the final signal output of each master mix *after* the master slide level control. In order to monitor any master output with this feature, the *solo master* level control in the master section must be set to the desired listening level and the solo button must be depressed on any master mix. NOTE: Any number of master mixes may be monitored at the same time with the Solo Function.

MASTER MIX LEVEL SLIDERS

All six master mix sliders function identically to regulate the output level of each mix separately. For example, Master 1 feeds the output on the rear panel for mix 1 only. These controls should be operated near the mid point or zero dB position for optimum headroom and signal-to-noise performance. NOTE: A setting above the zero dB position will increase output signal but will also increase system noise; and a setting below zero dB will result in improved noise performance at the expense of less headroom. Notice there is 14 dB of gain available above the zero position for situations where extra gain is required. A rough "rule of thumb" for setting the master sliders would be at the input sensitivity rating of the power amplifier for that particular mix. For instance, if the power amp sensitivity rating is +3 dBV, then adjust the slider for that mix to +3 dB as a starting point.





REAR PANEL

AUXILIARY INPUT JACK

There is an Auxiliary Input for each separate mix to allow patching in other outboard signals such as additional monitor channels or an "outboard" monitor mixer. There are no auxiliary Input level controls associated with these jacks, but the signal simply mixes into the master summing buss for each separate monitor mix, and is controlled by the master mix level slide control.

SOLO PATCH

The Solo Patch is a stereo 1/4" jack and is designed to interconnect the "electronic logic" of the solo feature when *two* monitor mixers are patched together and the solo function is desirable on both units. When two consoles are used for additional channels in a monitor situation, the logic and signal *should be connected* so that listening capability is possible for both consoles through the solo feature for each monitor mix.

NOTE

A TWO CONDUCTOR SHIELDED CORD FITTED WITH STEREO PLUGS (RING, TIP AND SLEEVE) MUST BE USED TO ACCOMPLISH THIS PATCH.

SAMPLE OUTPUT JACK

The Sample Output Jack is a 1/4" phone jack and provides a signal from the sample level on the front panel and should be used for the monitor mix engineer to sample the different mixes that are occurring on stage. This creates a separate system which is usually located near the monitor mix console and should include the same basic type of amplifier and speaker system that is employed on stage so that the mix engineer will know exactly how the monitors sound on stage. The patch hookup for this system would be from the Sample Output Jack to the amp/speaker system that is used for the sampling source. NOTE: For most high level monitor applications, a *separate* sampling speaker/amplifier system is much more effective than trying to do a monitor mix through headphones. (See explanation of Sample Level Control and Diagram C)

CHANNEL

CHANNEL INPUTS

OUT/IN JACK

The Out/In Jack on each channel is stereo 1/4" phone and allows individual channel patching immediately *after* the Input Gain Control and *before* the equalization. The first (position) "click" of this jack when used with a *mono* phone plug will allow a separate output from each individual channel whenever a signal such as this is needed for any reason. The audio chain is not interrupted when an output is merely taken from each individual channel. However, when a *stereo* plug is used and the jack is fully engaged ("second click") this input becomes a *send* on the "tip" and a *return* on the "ring" for channel conditioning. Limiters, equalizers, noise gates, etc., may be patched "in-line" with the individual channels through the Out/In stereo jack.

LOW Z BALANCED IN/OUT JACKS

Each channel of the MD™ is equipped with a Low Z balanced splitter system for the interconnection of microphones or instruments between the house (main) mixer and the MD Monitor Console. The "splitter system" allows mics to go directly to the monitor mixer and then be patched directly to the Low Z Input connectors of the house mixer through the main snake cable system. (See Diagram A)

OUT/IN



OUT

DIAGRAM A

PATCH BETWEEN MICS, MONITOR MIXER AND HOUSE (MAIN) MIXER!

SIGNALS FROM MICS OR INSTRUMENTS ON STAGE WHICH ARE REQUIRED IN THE MONITOR MIX

CHANNEL

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OUT/IN



SHOWN TYPICAL EACH CHANNEL

NOTE! MIC LINES AND SNAKE CABLES **MUST** BE SHIELDED.

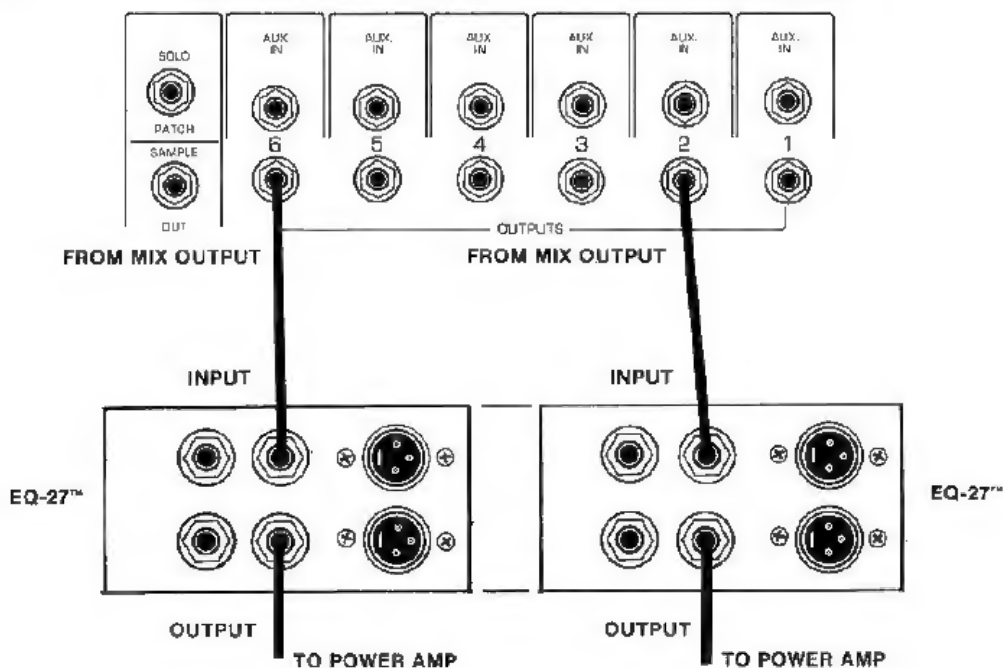
FROM STAGE

BALANCED INPUT

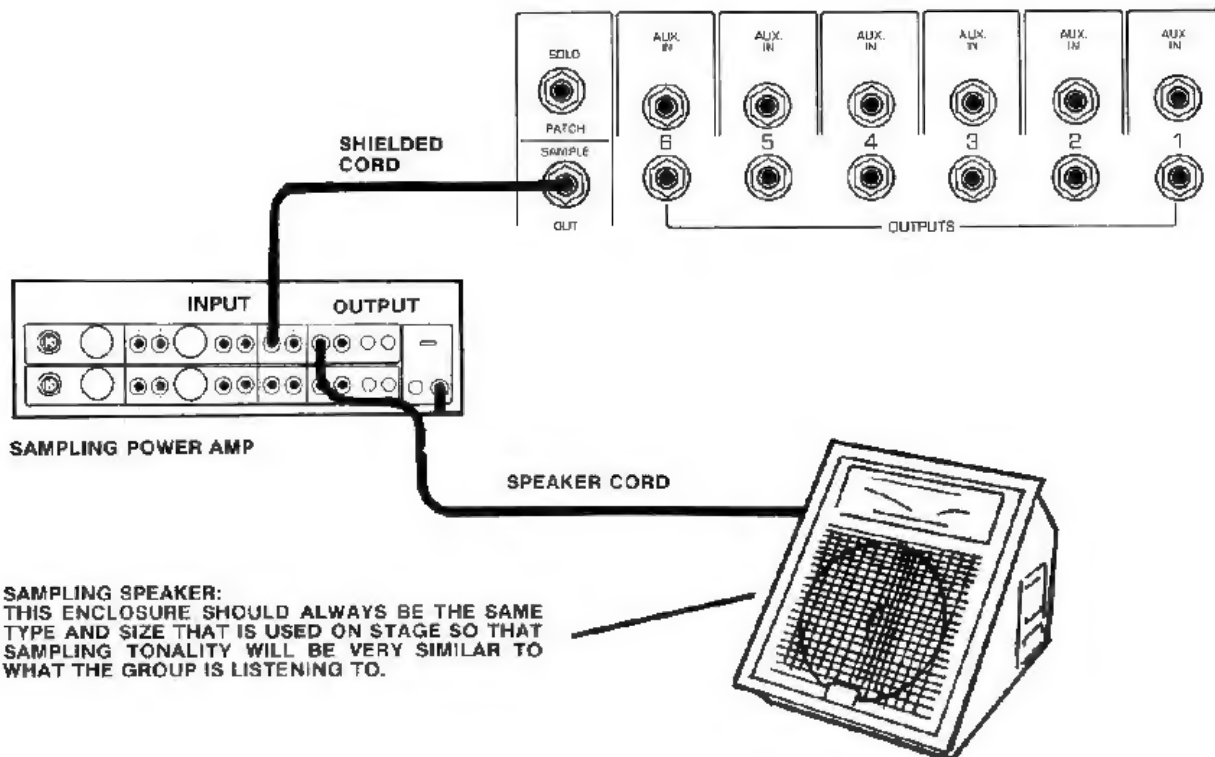
FROM OTHER CHANNELS

HOUSE SNAKE

TO MAIN (OUTFRONT) MIXER SNAKE. NO ADDITIONAL SPLITTER BOX REQUIRED.

DIAGRAM B**EXTERNALLY EQUALIZED MONITOR MIXES****NOTES!**

- Use good quality shielded cords for all connections.
- Only (2) equalizers are shown, but system is capable of (6) equalized mixes.
- Use 1/3 octave equalizers whenever possible.

DIAGRAM C**SAMPLE SPEAKER/POWER AMP PATCH**

THIS LIMITED WARRANTY VALID ONLY WHEN PURCHASED AND REGISTERED IN THE UNITED STATES OR CANADA. ALL EXPORTED PRODUCTS ARE SUBJECT TO WARRANTY AND SERVICES TO BE SPECIFIED AND PROVIDED BY THE AUTHORIZED DISTRIBUTOR FOR EACH COUNTRY!

Ces clauses de garantie ne sont valables qu'aux Etats-Unis et au Canada. Dans tous les autres pays, les clauses de garantie et de maintenance sont fixées par le distributeur national et assurées par lui selon la législation en vigueur.

Diese Garantie ist nur in den USA und Kanada gültig. Alle Export-Produkte sind der Garantie und dem Service des Importeurs des jeweiligen Landes unterworfen.

Esta garantía es válida solamente cuando el producto es comprado en E.U. continentales o en Canada. Todos los productos que sean comprados en el extranjero, están sujetos a las garantías y servicio que cada distribuidor autorizado determine y ofrezca en los diferentes países.

RETAIN YOUR PROOF OF PURCHASE LIMITED WARRANTY

Peavey Electronics Corporation warrants this Audio Media Research (AMR) product, EXCEPT for covers, footswitches, patchcords, tubes and meters, to be free from defects in material and workmanship for a period of one (1) year from date of purchase PROVIDED, however, that this limited warranty is extended only to the original retail purchaser and is subject to the conditions, exclusions and limitations hereinafter set forth:

90-DAY LIMITED WARRANTY ON TUBES AND METERS

If this product contains tubes or meters, Peavey warrants the tubes or meters contained in the product to be free from defects in material and workmanship for a period of ninety (90) days from date of purchase PROVIDED, however, that this limited warranty is extended only to the original retail purchaser and is also subject to the conditions, exclusions and limitations set forth.

CONDITIONS, EXCLUSIONS AND LIMITATIONS OF LIMITED WARRANTIES

These limited warranties shall be void and of no effect if:

- a. The first purchase of the product is for the purpose of resale; or
- b. The original retail purchase is not made from an AUTHORIZED AMR PRODUCTS DEALER; or
- c. The product has been damaged by accident or unreasonable use, neglect, improper service or maintenance, or other causes not arising out of defects in material or workmanship; or
- d. The serial number affixed to the product is altered, defaced or removed.

In the event of a defect in material and/or workmanship covered by this limited warranty, Peavey will:

- a. In the case of tubes or meters, replace the defective component without charges; or
- b. In other covered cases (i.e., cases involving anything other than covers, footswitches, patchcords, tubes or meters), repair the defect in material or workmanship or replace the product, at Peavey's option; and provided, however, that in any case all costs of shipping (if necessary) are paid by you, the Purchaser.

THE WARRANTY REGISTRATION CARD SHOULD BE ACCURATELY COMPLETED, MAILED TO AND RECEIVED BY PEAVEY ELECTRONICS CORPORATION WITHIN FOURTEEN (14) DAYS FROM THE DATE OF YOUR PURCHASE.

In order to obtain service under these warranties, you must:

- a. Bring the defective item to any AUTHORIZED DEALER or AUTHORIZED AMR PRODUCTS SERVICE CENTER and present the ORIGINAL PROOF OF PURCHASE supplied to you by the AUTHORIZED DEALER in connection with your purchase from him of this product.

If the DEALER or SERVICE CENTER is unable to provide the necessary warranty service, you will be directed to the nearest other AUTHORIZED DEALER OR AUTHORIZED SERVICE CENTER which can provide such service.

OR

- b. Ship the defective item, prepaid to:

PEAVEY ELECTRONICS CORPORATION
INTERNATIONAL SERVICE CENTER
HIGHWAY 60 EAST
MERIDIAN, MS 39301

Including therewith a complete, detailed description of the problem, together with a legible copy of the original PROOF OF PURCHASE and a complete return address. Upon Peavey's receipt of these items:

If the defect is remedial under these limited warranties and the other terms and conditions expressed herein have been complied with, Peavey will provide the necessary warranty service to repair or replace the product and will return it, FREIGHT COLLECT, to you, the Purchaser.

Peavey's liability to the purchaser for damages from any cause whatsoever and regardless of the form of action, including negligence, is limited to the actual damages up to the greater of \$500.00 or an amount equal to the purchase price of the product that caused the damage or that is the subject of or is directly related to the cause of action. Such purchase price will be that in effect for the specific product when the cause of action arose. This limitation of liability will not apply to claims for personal injury or damage to real property or tangible personal property allegedly caused by Peavey's negligence. Peavey does not assume liability for personal injury or property arising out of or caused by an unauthorized alteration or non-AMR attachment, nor does Peavey assume any responsibility for damage to interconnected non-AMR equipment that may result from the normal functioning and maintenance of the AMR equipment.

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Some states do not allow limitation on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. These limited warranties give you specific legal rights, and you may also have other rights which may vary from state to state.

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In the event of any modification or disclaimer of express or implied warranties, or any limitation of remedies, contained herein conflicts with applicable law, then such modification, disclaimer or limitation, as the case may be, shall be deemed to be modified to the extent necessary to comply with such law.

INSTRUCTIONS — WARRANTY REGISTRATION CARD

1. Mail the completed WARRANTY REGISTRATION CARD to:

PEAVEY ELECTRONICS CORPORATION
ATTN: WARRANTY DEPT.
POST OFFICE BOX 1230
MERIDIAN, MS 39301

Keep your PROOF OF PURCHASE. In the event warranty service is required during the warranty period, you will need this document.

2. IMPORTANCE OF WARRANTY REGISTRATION CARDS AND NOTIFICATION OF CHANGES OF ADDRESS:

- a. Completion and mailing of WARRANTY REGISTRATION CARDS - Should notification become necessary for any condition that may require correction, the REGISTRATION CARD will help insure that you are contacted and properly notified.
- b. Notice of address changes - If you move from the address shown on the WARRANTY REGISTRATION CARD, you should notify Peavey of the change of address so as to facilitate your receipt of any bulletins or other forms of notification which may become necessary in connection with any condition that may require dissemination of information or correction.
- 3. Should you have any questions or problems, you may contact Peavey direct by telephoning (601) 483-5372. Any correspondence with the factory concerning this product should include the serial number of the item(s).



Features and specifications subject to change without notice.

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